What is claimed is:

1. A method for analyzing power plane quiescent current measurements performed on a group of integrated circuits, comprising:

reading a plurality of data sets, each of said data sets containing a plurality of quiescent current values corresponding to a plurality of stimulus vectors of said measurements, where in each of said data sets contains data gathered on a corresponding one of said group of integrated circuits;

selecting one of said stimulus vectors as a reference vector;

computing an estimator of quiescent current for each remaining one of said stimulus vectors as a function of reference vector quiescent current level; and

normalizing said quiescent current values in at least one of said data sets by calculating an expected quiescent current value for each of said remaining stimulus vectors and subtracting said expected quiescent current value for each of said remaining stimulus vectors from a corresponding one of said quiescent current values, whereby variations in said quiescent current measurements that are not due to activated defects are reduced and said quiescent current measurements are categorized in ranges of quiescent current levels.

2. The method of Claim 1, further comprising discarding ones of said quiescent current values that are above a threshold prior to performing said computing and normalizing to select quiescent current values that are not indicative of activated defects.

3. The method of Claim 2, further comprising:

cross-correlating remaining ones of said quiescent current values across said plurality of data sets, prior to performing said computing and said normalizing; and

discarding quiescent current values for which a result of said cross-correlating is below a threshold.

4. The method of Claim 3, wherein said discarding discards an entire one of said data sets in response to detecting that a correlation of said data set is below a threshold.

5. The method of Claim 1, further comprising:

subsequent to said normalizing, determining whether or not any of said normalized quiescent current values indicate the presence of an activated defect; and

responsive to determining that one of or more of said normalized quiescent current values indicates the presence of an activated defect, discarding quiescent current values corresponding to said one or more normalized quiescent current values.

6. The method of Claim 5, further comprising repeating said computing and normalizing responsive to determining that one of or more of said normalized quiescent current values indicates the presence of an activated defect.

7. The method of Claim 1, wherein each of said group of devices includes a defect that is activated by at least one of said stimulus vectors, whereby said method determines a set of regressions for normalizing quiescent current data without requiring a defect-free device.

8. A computer program product for use with a workstation computer, wherein said computer program product comprises signal bearing media containing program instructions for execution within said workstation computer for analyzing power plane quiescent current measurements performed on a group of integrated circuit, wherein said program instructions comprise program instructions for:

    reading a plurality of data sets, each of said data sets containing a plurality of quiescent current values corresponding to a plurality of stimulus vectors of said measurements, where in each of said data sets contains data gathered on a corresponding one of said group of integrated circuits;

    selecting one of said stimulus vectors as a reference vector;

    computing an estimator of quiescent current for each remaining one of said stimulus vectors as a function of reference vector quiescent current level; and

    normalizing said quiescent current values in at least one of said data sets by calculating an expected quiescent current value for each of said remaining stimulus vectors and subtracting said expected quiescent current value for each of said remaining stimulus vectors from a corresponding one of said quiescent current values, whereby variations in said quiescent current measurements that are not due to activated defects are reduced and said quiescent current measurements are categorized in ranges of quiescent current levels.

9. The computer program product of Claim 8, wherein said program instructions further comprise program instructions for discarding ones of said quiescent current values that are above a threshold prior to executing said program instructions for computing and normalizing to select quiescent current values that are not indicative of activated defects.

10. The computer program product of Claim 9, wherein said program instructions further comprise program instructions for:

cross-correlating remaining ones of said quiescent current values across said plurality of data sets, said program instructions for cross-correlating executed prior to said program instructions for computing and normalizing; and

discarding quiescent current values for which a result of said cross-correlating is below a threshold.

11. The computer program product of Claim 10, wherein said program instructions for discarding discard an entire one of said data sets in response to detecting that a correlation of said data set is below a threshold.

12. The computer program product of Claim 8, wherein said program instructions further comprise program instructions for:

    subsequent to said normalizing, determining whether

5   or not any of said normalized quiescent current values indicate the presence of an activated defect; and

    responsive to said program instructions for determining having determined that one of or more of said normalized quiescent current values indicates the presence

10   of an activated defect, discarding quiescent current values corresponding to said one or more normalized quiescent current values.

13. The computer program product of Claim 12, wherein said

15   program instructions further comprise program instructions for repetitively executing said program instructions for computing and normalizing responsive to said program instructions for determining having determined that one of or more of said normalized quiescent current values

20   indicates the presence of an activated defect.

14. A workstation comprising:

a memory for storing program instructions and data values for analyzing power plane quiescent current measurements performed on a group of integrated circuits;

a processor for executing said program instructions, wherein said program instructions comprise program instructions for

reading a plurality of data sets, each of said data sets containing a plurality of quiescent current values corresponding to a plurality of stimulus vectors of said measurements, where in each of said data sets contains data gathered on a corresponding one of said group of integrated circuits,

selecting one of said stimulus vectors as a reference vector,

computing an estimator of quiescent current for each remaining one of said stimulus vectors as a function of reference vector quiescent current level, and

normalizing said quiescent current values in at least one of said data sets by calculating an expected quiescent current value for each of said remaining stimulus vectors and subtracting said expected quiescent current value for each of said remaining stimulus vectors from a corresponding one of said quiescent current values, whereby variations in said quiescent current measurements that are not due to activated defects are reduced and said quiescent current measurements are categorized in ranges of quiescent current levels.

15. The workstation of Claim 14, wherein said program instructions further comprise program instructions for discarding ones of said quiescent current values that are above a threshold prior to executing said program instructions for computing and normalizing to select quiescent current values that are not indicative of activated defects.

16. The workstation of Claim 15, wherein said program instructions further comprise program instructions for:
        cross-correlating remaining ones of said quiescent current values across said plurality of data sets, said program instructions for cross-correlating executed prior to said program instructions for computing and normalizing; and
        discarding quiescent current values for which a result of said cross-correlating is below a threshold.

17. The workstation of Claim 16, wherein said program instructions for discarding discard an entire one of said data sets in response to detecting that a correlation of said data set is below a threshold.

18. The workstation of Claim 14, wherein said program instructions further comprise program instructions for:
        subsequent to said normalizing, determining whether or not any of said normalized quiescent current values indicate the presence of an activated defect; and
        responsive to said program instructions for determining having determined that one of or more of said normalized quiescent current values indicates the presence of an activated defect, discarding quiescent current values corresponding to said one or more normalized quiescent current values.

19. The workstation of Claim 18, wherein said program instructions further comprise program instructions for repetitively executing said program instructions for computing and normalizing responsive to said program instructions for determining having determined that one of or more of said normalized quiescent current values indicates the presence of an activated defect.

20. The workstation of Claim 14, wherein said workstation is coupled to a wafer test unit for providing said stimulus vectors and measuring said quiescent current values.